ADVANTECH

PCM-9588 Intel® Celeron® M EBX SBC with DVI/ TTL/ VGA/ LVDS/ LAN/ 6 COM/ 2 SATA/ 6 USB2.0/16-bit GPIO Startup Manual

Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

- 1 PCM-9588 all-in-one single board computer
- 1 Startup manual
- 1 CD disk for utility and drivers
- 1 Mini Jumper (10 pcs package) p/n: 9689000002
- 1 ATX power cable p/n: 1700001112
- 1 AT power cable P/N:1700006196

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note 1: For detailed contents of PCM-9588, please refer to information on the enclosed CD-ROM (in PDF format).

Note 2: Acrobat Reader is required to view any PDF file.Acrobat Reader can be downloaded at: www.adobe.com/Products/acrobat/readstep2.html (Acrobat is a trademark of Adobe)

For more information on this and other Advantech products, please visit our website at:

http://www.advantech.com

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For technical support and service, please visit our support website at:

http://service.advantech.com.tw/eservice/

This manual is for the PCM-9588 series Rev. A1.

Part No. 2006958800 1st Edition,
Printed in China Dec. 2008

Specifications

General

- **CPU:** Intel® Celeron® M series
  Celeron® M 600 MHz: PCM-9588T-M0A1E
  Celeron® M 1.0 GHz: PCM-9588F-S0A1E
- **2nd Cache Memory:**
  Celeron® M 600MHz: 512KB
  Celeron® M 1.0GHz: 0KB
- **System Chipset:** Intel 910GMLE/ICH6M Chipset
- **BIOS:** AWARD 4 Mbit Flash BIOS
- **System Memory:** 1 x 200-pin SODIMM sockets, DDR2 400MHz up to 2 GB
- **Power Management:** APM 1.2, ACPI support
- **Watchdog Timer:** 255-level interval timer
- **Expansion Interface:** PC-104 plus
- **Battery:** Lithium 3 V / 196 mA

I/O

- **I/O Interface:** 1 x EIDE (UDMA 33/66/100/133), 2 x SATA 150, 1 x K/B, 1 x Mouse, 4 x RS232, 2 x RS232/422/485 (Default RS-422/485, RS-232 by optional request), 1 x LPT and 1 x EIDE device
- **USB:** 6 x USB 2.0 compliant Ports
- **Audio:** AC97, Line-in, Line-out, Mic-in, speaker out (R/L)
- **IrDA:** 115kbps (optional by request) shared from COM2
- **GPIO:** 16-bit General Purpose I/O

Ethernet

- **Chipset:** 1 x Realtek RTL8100CL-LF (Optional RTL8110SCL-LF for Giga LAN)
- **Speed:** 10/100 Mbps (1000Mbps for optional)
- **Interface:** 1 x RJ45 by cable
- **Standard:** IEEE 802.3u 100Base-T (IEEE 802.3ab 1000Base-T for optional)

Display

- **Controller:** Intel 910GMLE
- **VRAM:** Optimized Shared Memory Architecture up to 128 MB system memory
- **VGA:** QXGA (2048 x 1536)
- L**VDS LCD:** 1 x 48-bit LVDS
- **DVI:** 36bit DVI (PCM-9588F-S0A1E only)
- **TTL LCD:** Support 18/36bit TTL
- **Dual Independent Display:** CRT+ LVDS / DVI+ LVDS/ DVI+ CRT/ CRT+ TTL/ TTL+DVI

Specifications

Mechanical and Enviromental

- **Dimension (mm):** 203 mm (L)* 146 mm (W)
- **Height on Top (mm):** 15.4 mm (PCI slot)
- **Height on Bottom (mm):** 8.5mm (CF socket)
- **Heatsink Dimension (mm):** 50*50*10 mm
- **Weight (g):** with Heatsink 480 g
- **Operating Temperature:** 0 ~ 60° C (32~140° F)
- **Operating Humidity:** 0% ~ 90% Relative Humidity, noncondensing
- **Storage Temperature:**
  Standard products: 0 ~ 60° C
  Storage temperature: -20 ~ 70° C
- **Storage Humidity:**
  Standard products: 0 ~ 60° C
  Relative humidity: 95% @ 60° C
- **Power Supply Voltage:**
  ATX:
  5 V STB, +5 V ± 5%, ±12 V ± 5%, external 12 V option for LCD Inverter, PCI & PCI-104 Plus
  AT:
  5 V only to boot up, external 12 V option for LCD Inverter, PCI & PC/104 Plus
- **Power Requirement:**
  PCM-9588T-M0A1E
  Max (HCT): 3.48A @ 5V, 0.02A @ 12V
  Suspend: 1.77A @ 5V, 0.01A @ 12V
  PCM-9588F-S0A1E
  Max (HCT): 4.27A @ 5V, 0.01A @ 12V
  Suspend: 2.26A @ 5V, 0.01A @ 12V

Note1: PCM-9588 reserve a System FAN for customer. It supports DC12V but current is no more than 0.2A

Note2: JP1 is VIO select voltage for PCI and ISA so please be careful the setting.

Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application.
The table below lists the function of each of the jumpers an connectors.

Jumpers	
Label	**Function**
JP1	VIO Select for PCI and ISA Slot
JP4	CMOS Clear
JP6	RS422/RS485 Select for COM5 and COM6
JP8	LCD Panel Power Select
JP9	Backlight Control Select

Connectors	
Label	**Function**
CN2	Audio CD-In Connector
CN4	Audio Connector
CN5	Power Connector
CN6	Inverter Connector
CN8	VGA Connector
CN9	LVDS Connector
CN10	TTL Connector (High Bits)
CN11	TTL Connector (Low Bits)
CN12	Lan Connector
CN13	HDD LED and POWER LED Connector
CN15	LPT / FDD Connector
CN16	IDE Connector
CN17	PC-104/+ Connector
CN19	COM1~4 Connector
CN20	USB1/2 Connector
CN22	Reset Button Connector
CN23	Power Button Connector
CN24	SIR Connector
CN25	PS2 Keyboard/Mouse Connector
CN26	CF TYPEII Connector
CN27	-V5 and –V12 Connector
CN28	USB3/4 Connector
CN29	DDR2 SODIMM Socket

Jumpers and Connectors

CN30	DVI Connector
CN31	SATA 1 Connector
CN32	SATA 2 Connector
CN33	Battery Connector
CN34	LAN LED Connector
CN36	GPIO1 Connector
CN37	GPIO2 Connector
CN38	USB5/6 Connector
CN41	COM5/6/422/485 Connector

Jumper Setting

JP1	**VIO Select for PCI and ISA slot**
Part Number	1653003100
Footprint	PH_3x1V_2.54mm
Description	PIN HEADER 3*1P 180D(M) 2.54mm DIP WO/Pb
Setting	**Function**
(1-2)	+V5
(2-3)	+V3.3

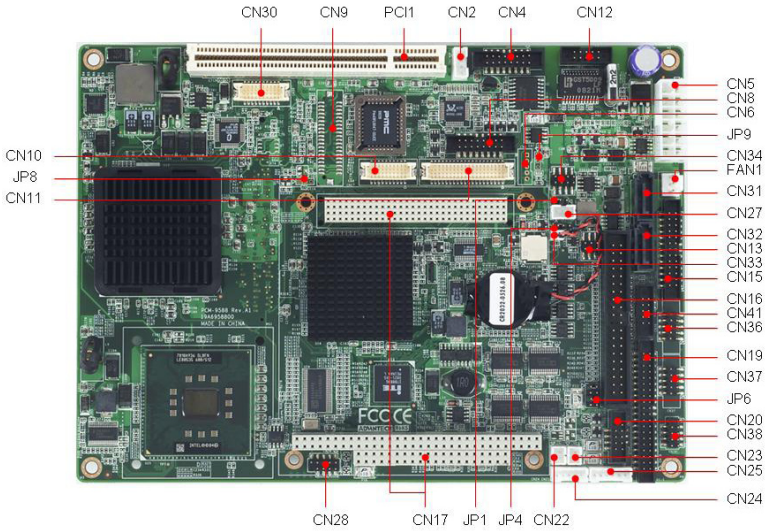
JP4	**CMOS Clear**
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	**Function**
(1-2)	Normal
(2-3)	Clear

Jumpers and Connectors

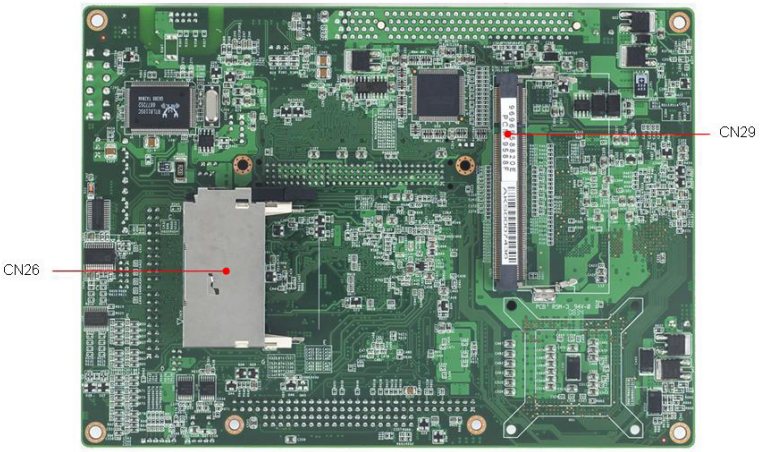
JP6	**RS422 / RS485 Select for COM5 and COM6**
Part Number	1653004201
Footprint	JH4X2V-2M
Description	PIN HEADER 4*2P 180D(M) 2.0mm DIP WO/Pb
Setting	**Function**
(1-2)	COM5= RS485
(3-4)	COM5= RS422
(5-6)	COM6= RS485
(7-8)	COM6= RS422

JP8	**LCD Panel Power Select**
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	**Function**
(1-2)	+V5
(2-3)	+V3.3

JP9	**Backlight control select**
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	**Function**
(1-2)	PWM Control
(2-3)	Voltage Control

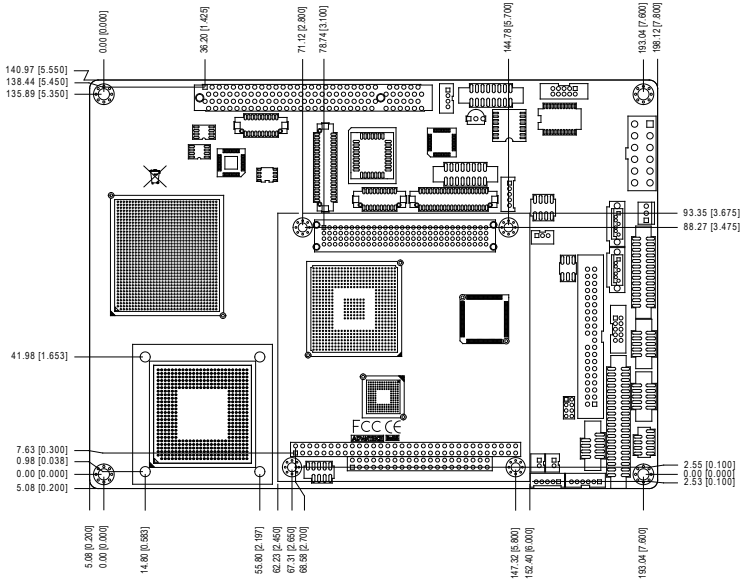


PCM-9588 Jumper & Connectors (Component Side)

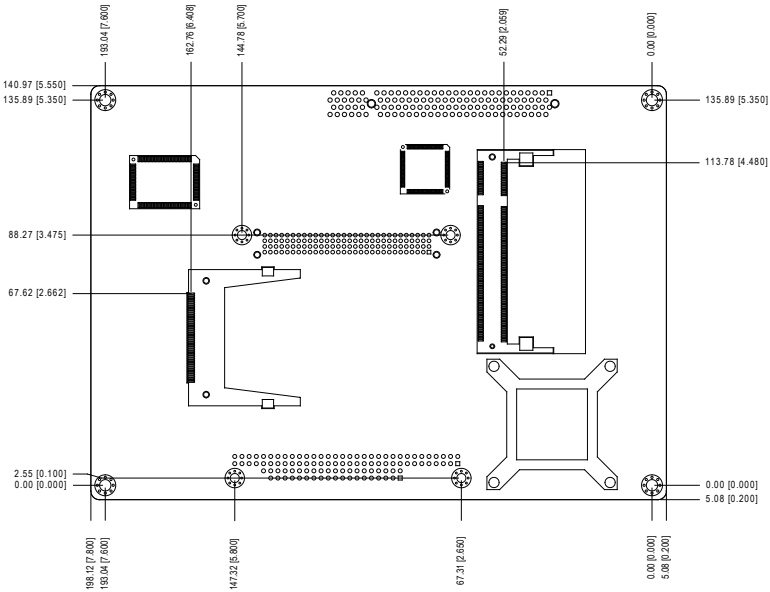


PCM-9590 Jumper & Connectors (Solder Side)

PCM-9588 Dimension



PCM-9588 Dimension (Top)



PCM-9588 Dimension (Bottom)